Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

INDEX TO VOLUME XXVI.

Compiled by HELEN A. MERRILL and Department Editors.

Misprinted names in the text are corrected, and missing initials supplied, in this index.

FORMAL PAPERS—AUTHORS.

ADAMS, O. S. Meeting of the Maryland-Virginia-District of Columbia Section, 325.

ALTSHILLER, N. Remarks on a previous article, 65.

ARMSTRONG, G. N. Fourth annual meeting of the Ohio Section, 234.

BALLANTINE, J. P. Difference quotients, 53.

BARROW, D. F. On the envelope of the Wallace lines of an inscribed quadrangle, 108.

BARTON, R. M. Meeting of the Minnesota Section, 435.

BROGGI, UGO. A proof of a theorem of compound probabilities, 288.

CAIRNS, W. D. Election of members, 237.

——— Third annual meeting of the Mathematical Association of America, 91.

——— Fourth summer meeting of the Mathematical Association of America, 373.

CARMICHAEL, R. D. Fermat numbers $F_n = 2^{2^n} + 1$, 137.

CLAWSON, J. W. A theorem in the geometry of the triangle, 59.

COBLE, A. B. Concerning a method for finding a particular integral, 12.

DOWNING, H. H. Third annual meeting of the Kentucky Section, 279.

EMCH, A. On an elementary problem of closure on an equilateral hyperbola, 63.

FORD, W. B. (*Chairman*) Second report of the Committee on Libraries—list of college mathematical text-books, 225.

FRANKLIN, P. Some geometrical relations of the plane, sphere, and tetrahedron, 146.

FRUMVELLER, A. F. A theory and generalization of the circular and hyperbolic functions, 280.

HUNTINGTON, E. V. Mathematics and statistics with an elementary account of the correlation coefficient and the correlation ratio, 421.

LAVES, K. How the map-problem was solved in the war, 181.

LIGHT, G. H. The April meeting of the Rocky Mountain Section, 237.

LORIA, G. On certain constructions of descriptive geometry, 45.

MCCLENON, R. B. Leonardo of Pisa and his *Liber Quadratorum*, 1.

MACMILLAN, W. D. The growth of the solar system, 326.

MANNING, H. P. "Concerning a method for finding a particular integral," Note on Professor Coble's article, 113.

MILLER, G. A. Bits of history about two common mathematical terms, 290.

RIGGE, W. F. Cuspidal rosettes, 332.

ROEVER, W. H. Geometric explanation of a certain optical phenomenon, 111.

VIVIAN, ROXANA H. Statistics in relation to the war, 32.

WILCZYNSKI, E. J. On the form of the power series for an algebraic function, 9.

YOUNG, J. W. (*Chairman*) Report of the National Committee on Mathematical Requirements, 233, 279, 439, 462.

FORMAL PAPERS—TITLES.

Algebraic function, On the form of a power series for. E. J. WILCZYNSKI, 9.

Annual meeting, Third, of the Mathematical Association of America. W. D. CAIRNS, 91.

Circular and hyperbolic functions, A theory and generalization of. A. F. FRUMVELLER, 280.

Committee, National, on Mathematical Requirements. Report, 233, 279, 439, 462.

Committee on Libraries—List of college mathematical text books, 225.

Constructions of descriptive geometry, On certain. G. LORIA, 45.

Cuspidal rosettes. W. F. RIGGE, 332.

Descriptive geometry, On certain constructions of. G. LORIA, 45.

Difference quotients. J. P. BALLANTINE, 53.

Election of members. W. D. CAIRNS, 237.

Envelope of the Wallace lines of an inscribed quadrangle. D. F. BARROW, 108.

Fermat numbers $F_n = 2^{2^n} + 1$. R. D. CARMICHAEL, 137.

Geometric explanation of a certain optical phenomenon. W. H. ROEVER, 111.

Geometrical relations of the plane, sphere, and tetrahedron. P. FRANKLIN, 146.

Geometry, Descriptive, On certain constructions of. G. LORIA, 45.

Geometry of the triangle, A theorem in. J. W. CLAWSON, 59.

Growth of the solar system. W. D. MACMILLAN, 326.

History, Bits of, about two common mathematical terms. G. A. MILLER, 290.

Hyperbolic and circular functions, A theory and generalization of. A. F. FRUMVELLER, 280.

Hyperbola, equilateral, On an elementary problem of closure on. A. EMCH, 63.
I-Centres of a triangle, Remarks on a previous article. N. ALTSHILLER, 65.
Integral, Particular, Concerning a method for finding. A. B. COBLÉ, 12. Note on same, H. P. MANNING, 113.
Leonardo of Pisa and his *Liber Quadratarum*. R. B. MCCLENON, 1.
Libraries, Second report of Committee on. List of College Mathematical text-books, 225.
Map-Problem, How the — was solved in the war. K. LAVES, 181.
Mathematical Association of America. Third annual meeting of. W. D. CAIRNS, 91. Fourth summer meeting of, W. D. CAIRNS, 373.
Mathematical Association of America, Sections of. Kentucky, Third annual meeting. H. H. DOWNING, 279. Maryland-Virginia-District of Columbia, Meeting. O. S. ADAMS, 325. Minnesota, Meeting. R. M. BARTON, 435. Rocky Mountain, April meeting. G. H. LIGHT, 237.
Mathematical Requirements, Report of the National Committee on, 233, 279, 439, —.
Mathematical terms, two common, Bits of history about. G. A. MILLER, 290.
Mathematics and statistics. E. V. HUNTINGTON, 421.
Optical phenomenon, Geometric explanation of a certain. W. H. ROEVER, 111.
Plane, sphere and tetrahedron, Some geometrical relations of. P. FRANKLIN, 146.
Power series for an algebraic function, On the form of. E. J. WILCZYNSKI, 9.
Probabilities, compound, Proof of a theorem of. UGO BROGGI, 288.
Problem of closure on an equilateral hyperbola, On an elementary. A. EMCH, 63.
Quadrangle, inscribed, On the envelope of the Wallace lines of. D. F. BARROW, 108.
Report of Committee on Libraries, Second— List of college mathematical text-books, 225.
Report of National Committee on Mathematical Requirements, 233, 279, 439, —.
Rosettes, Cuspidal. W. F. RIGGE, 332.
Solar system, The growth of. W. D. MACMILLAN, 326.
Sphere, plane and tetrahedron, Some geometrical relations of. P. FRANKLIN, 146.
Statistics, Mathematics and. E. V. HUNTINGTON, 421.
Statistics in relation to the war. ROXANA H. VIVIAN, 32.
Tetrahedron, plane and sphere, Some geometrical relations of. P. FRANKLIN, 146.
Triangle, A theorem in the geometry of the. J. W. CLAWSON, 59.
Wallace lines of an inscribed quadrangle, On the envelope of. D. F. BARROW, 108.
War, How the map-problem was solved in the. K. LAVES, 181.
War, Statistics in relation to the. ROXANA H. VIVIAN, 32.

QUESTIONS AND DISCUSSIONS—AUTHORS.

BENNETT, A. A. The sign of the distance in analytical geometry, 344.
BROWN, B. H. Probabilities in the game of "shooting craps," 351.
CARVER, W. B. Trigonometric functions—of what? 243.
ESCOTT, E. B. Reply to Question 21, 239.
EVANS, G. W. Concerning haversines in plane trigonometry, 69.
GILLESPIE, D. C. Advanced calculus or differential equations, 189.
HALDEMAN, C. B. Geometrical construction of the roots of a cubic, and inscription of a regular heptagon in a circle, 390.
HANCOCK, H. Reply to Question 36, 292.
JACOBS, M. W. An erroneous rule for finding a hypotenuse, with a corollary, 395.
JOHNSON, W. W. The complex quantity in elementary algebra, 295.
KAZARINOFF, D. C. Dupin's theorem, 441.
LIGHT, G. H. The existence of cusps on the evolute at points of maximum and minimum curvature on the base curve, 151.
LING, G. H. Reply to Question 32, 242.
MATHEWS, R. M. Graphical constructions for imaginary intersections of line and conic, 447.
MCCLENON, R. B. On the teaching of logarithms, 297.
MORITZ, R. E. On the quadrature of the parabola, 388.
NOBLE, C. A. The curve of concentration for a liquid mixture, 191.
RIETZ, H. L. On the teaching of the first course in calculus, 341.
RIGGE, W. F. Concerning a new method of tracing cardioids, 21.
SCHMIEDEL, O. On the summation of certain series, 392.
TREVOR, J. E. A property of homogeneous functions, 444.
WEAVER, W. Note on the teaching of the principle of mathematical induction, 190.
WHITTEMORE, J. K. Reply to Question 32, 188.

QUESTIONS AND DISCUSSIONS—SUBJECTS.

Calculus, Advanced, or differential equations. D. C. GILLESPIE, 189.
Calculus, Teaching of first course in. H. L. RIETZ, 341.
Cardioids, New method of tracing. W. F. RIGGE, 21.
Complex quantity in elementary algebra. W. W. JOHNSON, 295.

Concentration for liquid mixture, Curve of. C. A. NOBLE, 191.
"Craps," Probabilities in game of. B. H. BROWN, 351.
Cubic, Geometrical construction of roots of. C. B. HALDEMAN, 390.
Cusps on evolute at points of maximum and minimum curvature on base curve. G. H. LIGHT, 151.
Differential equations, Advanced calculus or. D. C. GILLESPIE, 189.
Distance in analytical geometry, Sign of. A. A. BENNETT, 344.
Dupin's theorem. D. C. KAZARINOFF, 441.
Editorial comment. U. G. Mitchell, 20–21; W. A. HURWITZ, 188–189, 241–243, 295, 340–341, 388, 441.
Evolute, Cusps on. G. H. LIGHT, 151.
Graphical constructions for imaginary intersections of line and conic, R. M. Mathews, 447.
Haversines in plane trigonometry. G. W. EVANS, 69.
Heptagon in a circle, Inscription of. C. B. HALDEMAN, 390.
Homogeneous functions, A property of. J. E. TREVOR, 444.
Hypotenuse, Erroneous rule for finding. M. W. JACOBS, 395.
Imaginary intersections of line and conic, Graphical constructions for. R. M. MATHEWS, 447.
Induction, Teaching of principle of mathematical. W. WEAVER, 190.
Liquid mixture, Curve of concentration for. C. A. NOBLE, 191.
Logarithms, Teaching of. R. B. MCCLENON, 297.
Mathematical induction, Teaching of principle of. W. WEAVER, 190.
Parabola, Quadrature of. R. E. MORITZ, 388.
Probabilities in the game of "shooting craps." B. H. BROWN, 351.
Quadrature of the parabola. R. E. MORITZ, 388.
Series, Summation of certain. O. SCHMIEDEL, 392.
Trigonometric functions—of what? W. B. CARVER, 243.

RECENT PUBLICATIONS—REVIEWS.

Archibald, R. C. *The Training of Teachers of Mathematics for the Secondary Schools of the Countries represented in the International Commission on the Teaching of Mathematics*, 67–68.
Barton, R. M. See Crawley, E. S.
Bell, R. J. T. See Frost, P.
Benedict, H. Y. See Karpinski, L. C.
Bennett, A. A. See Ford, L. R., and Milne, W. P.
Bianchi, L. *Lezioni sulla teoria dei gruppi continui finiti di transformazioni*. G. A. MILLER, 252–253.
Breckenridge, W. E. *Rehabilitation Monographs. Unit Course. Mathematics I. Use of the Slide Rule*, 358.
Cajori, F. See Child, J. M.
Calhoun, J. W. See Karpinski, L. C.
Carmichael, R. D. See Dickson, L. E.
Child, J. M. The Geometrical Lectures of Isaac Barrow. F. CAJORI, 15–20.
Colpitts, Julia T. See Roberts, Maria M.
Comstock, G. C. *The Sumner Line, or Line of Position, as an Aid to Navigation*. F. SLOCUM, 454.
Cornu, L. *Cours de mécanique*, tome 3, 118.
Crawley, E. S., and Evans, H. B. *Analytic Geometry*. R. M. BARTON, 113–116.
Cullis, C. E. *Matrices and Determinoids*, 202–203.
Currier, C. H. See Roberts, Maria M.
Dickson, L. E. *History of the Theory of Numbers*. Vol. I. *Divisibility and Primality*. R. D. CARMICHAEL, 396–403.
Dodd, E. L. See Whipple, G. C.
Dudeney, H. E. *Amusements in Mathematics*, 117–118.
Emch, A. See Veblen, O.
Encyclopædia of Religion and Ethics, 256.
Enriques, F. *Lezioni sulla teoria geometrica delle equazioni e delle funzioni algebriche*, 204.
Evans, H. B. See Crawley, E. S.
Fischer, L. A. See Huntington, E. V.
Ford, L. R. *Elementary Mathematics for Field Artillery*. A. A. BENNETT, 353–355.
Forsyth, A. R. *A Treatise on Differential Equations; Solutions of the Examples in A Treatise on Differential Equations*, 157–158.
Frost, P., and Bell, R. J. T. *An Elementary Treatise on Curve Tracing*, 201–202.
Gill, J. *Text-book on Navigation and Nautical Astronomy*. Revised by W. V. Merrifield, 158.
Goodenough, G. A. See Waterbury, L. A.
Goursat, E. *Cours d'Analyse*, 255.
Halsey, F. A. *The Weights and Measures of Latin America*, 254–255.
Hedrick, H. B. *Interpolation Tables, or Multiplication Tables of Decimal Fractions*. D. N. LEHMER, 156–157.
Higbie, H. H. See Waterbury, L. A.
Huntington, E. V. and Fischer, L. A. *Handbook of Mathematics for Engineers*, 254.
Karpinski, L. C. *Four-place logarithmic and trigonometric tables*, 117.
——— See Kaye, G. R., and Sarkar, B. K.
Karpinski, L. C., Benedict, H. Y., and Calhoun, J. W. *Unified Mathematics*. G. W. MULLINS, 244–249.
Kaye, G. R. "The Astronomical Observatories of Jai Singh." L. C. KARPINSKI, 298–300.
Koren, J. *The History of Statistics*, 204.
Lehmer, D. N. See Hedrick, H. B.
Lennes, N. J. See Sutton, C. W.
Lipka, J. *Graphical and Mechanical Computation*, 203.

Lucas, A. *Des phénomènes gyroscopiques et de leurs principales applications à la navigation*, 357–358.
McClenon, R. B., and Rusk, W. J. *Introduction to the Elementary Functions*. G. W. MULLINS, 244–249.
——— See Nunn, T. P.
McKenzie, K. *The Italian Universities and their Opportunities for Foreign Students*, 300–301.
Merrifield, W. V. See Gill, J.
Miller, G. A. See Bianchi, L.
Milne, W. P., and Westcott, G. J. B. *A First Course in Calculus*. A. A. BENNETT, 355–357.
Morgan, F. M. *Essentials of Algebra and Geometry*, 301.
Mullins, G. W. See Karpinski, L. C., McClenon, R. B., Ransom, W. R., and Slichter, C. S.
New English Dictionary on Historical Principles, 256.
Nunn, T. P. *Exercises in Algebra (including Trigonometry)* and *The Teaching of Algebra (including Trigonometry)*. R. B. MCCLENON, 154–156.
Poor, C. L. *Simplified Navigation for Ships and Aircraft*, 116–117.
Plummer, H. C. *An introductory treatise on Dynamical Astronomy*, 253–254.
Ransom, W. R. *Freshman Mathematics*. G. W. MULLINS, 244–249.
Roberts, Maria M., and Colpitts, Julia T. *Analytic Geometry*. C. H. CURRIER, 250–252.
Rusk, W. J. See MCCLENON, R. B.
Sarkar, B. K. *Hindu Achievements in Exact Science*. L. C. Karpinski, 298–300.
Slichter, C. S. *Elementary Mathematical Analysis*. G. W. MULLINS, 244–249.
Slocum, F. See Comstock, G. C.
Smith, D. E. *Number Stories of Long Ago*, 301.
Sutton, C. W., and Lennes, N. J. *Business Arithmetic*, 159.
——— *Brief Business Arithmetic*, 159.
Veblen, O., and Young, J. W. *Projective Geometry*. A. EMCH, 194–201.
Waterbury, L. A., Goodenough, G. A., and Higbie, H. H. *A Vest-pocket Handbook of Mathematics for Engineers*, 158, 159.
Westcott, G. J. B. See Milne, W. P.
Whipple, G. C. *Vital Statistics. An Introduction to the Science of Demography*. E. L. DODD, 452.
Young, J. W. See Veblen, O.

RECENT PUBLICATIONS—NOTES.

[References to personal items published under this head are listed under "Personal Mention." References to other items may be found in the next section of this index.]

RECENT PUBLICATIONS—PERIODICALS.

Acta Mathematica, 404.
Alumni Register, University of Pennsylvania, 119.
American Journal of Mathematics, 161, 257, 404.
American Oxonian, 360.
Annaes Scientificos da Academia Polytechnica do Porto, 257.
Annali di Matematica pura ed applicata, 205.
Annals of Mathematics, 119, 258, 404.
Archivio di Storia della Scienza, 404.
Athenaeum, 258, 360.
Atlantic Monthly, 405.
Biometrika, 258.
Bollettino di Bibliografia e Storia delle Scienze Matematiche, 205, 360.
Bollettino di Matematica, 358.
Bulletin des Sciences Mathématiques, 360.
Bulletin of the American Mathematical Society, 120, 161, 303, 405.
Bureau of Education. Higher Education Circular, 276.
California Alumni Fortnightly, 255.
Columbia University Quarterly, 258.
Education, 162, 258.
L'Education Mathématique, 358.
Educational Administration and Supervision, 360.
Educational Review, 162, 405.
Elementary School Journal, 360.
Encyklopädie der mathematischen Wissenschaften, 160.
L'Enseignement Mathématique, 205–206, 360.
Harvard Graduates' Magazine, 405.
Hermathena, 360.
Industrial Arts Management, 456.
Isis, 118.
L'Intermédiaire des Mathématiciens, 206.
Jahrbuch ü. d. Fortschritte d. Mathematik, 403.
Jahresbericht der deutschen Mathematiker-Vereinigung, 162, 405.
Journal of Accountancy, 303.
Journal of Education, 258.
Journal of Educational Psychology, 303.
Journal of the Franklin Institute, 162.
Journal of the Engineers' Club of Philadelphia, 117.
Journal of the Indian Mathematical Society, 120, 206, 304, 406, 456.
Journal of the Michigan Schoolmaster's Club, 403.
Journal of Philosophy, Psychology, and Scientific Methods, 304.
Journal of the Washington Academy of Sciences, 258.
Matematisk Tidsskrift, 204, 258, 404.
Mathematical Gazette, 206, 304, 406, 456.
Mathematical Questions and Solutions . . . Educational Times, 204.
Mathematics Teacher, 120, 258, 406.
Mathematische Annalen, 403.
Memoirs of the National Academy of Sciences, 304.
Messenger of Mathematics, 120, 162, 360, 456.

Mind, 259, 456.
Monist, 120, 162, 305.
Monthly Weather Review, 162.
National Review, 259.
Nature, 120, 259, 361, 406.
Niew Archief voor Wiskunde, 305.
Nineteenth Century and After, 120.
Norsk Matematisk Tidsskrift, 455.
Notes and Queries, 305.
Nouvelles Annales de Mathématiques, 163, 206, 305, 361, 456.
Nyt Tidsskrift för Matematik, 120, 204, 260.
Open Court, 361.
Periodico di matematica per l'insegnamento secondario and *Supplemento*, 118.
Il Pitagora, 204.
Proceedings of the American Academy of Arts and Sciences, 120, 260.
Proceedings of the Edinburgh Mathematical Society, 120–121.
Proceedings of the London Mathematical Society, 163, 305.
Proceedings of the National Academy of Sciences of the U. S. A., 121, 163, 261, 406–407.
Proceedings of the Royal Society, 163, 407.
El Progreso Scientifico, 118.
Psychological Bulletin, 457.
Quarterly Journal of Pure and Applied Mathematics, 206–207, 407.
Record of the American Institute of Actuaries, 261.
Rendiconti del Circolo Matematico di Palermo, 204, 361.
Revista de la Sociedad Española, 302.
Revista de Matematicas, Buenos Aires, 121.
Revista matematica Hispano-Americana, 302.
Revue de Mathématiques Spéciales, 358.
Revue de Métaphysique et de Morale, 163, 207, 457.
Revue du Mois, 457.
Revue générale des Sciences, 207, 361, 457.
Revue philosophique de la France et de l'étranger, 163.
Revue scientifique, 361.
Rice Institute Pamphlets, 404.
School and Society, 163, 407.
School Review, 163, 407.
School Science and Mathematics, 163, 207, 261, 306, 361.
Science, 121, 164, 207, 261, 361, 407, 457.
Science Progress, 164, 302, 306–307, 457.
Scientia, 165, 207, 261, 307, 407–408.
Scientific American Supplement, 307.
Scientific Monthly, 165, 208.
Sewanee Review, 165, 208.
Sigma Xi Quarterly, 261.
Texas Mathematics Teachers' Bulletin, 121, 261, 307.
Tidsskrift för Matematik, 204.
Tidsskrift för elementar Matematik, Fysik, och Kemi, 361–362.
Tôhoku Mathematical Journal, 121–122, 165, 307, 408, 457.
Transactions of the Academy of Sciences of St. Louis, 208.
Transactions of the American Mathematical Society, 122, 208, 362.
Transactions of the Royal Society of Canada, 261, 408.
U. S. Naval Institute Proceedings, 457.
University Bulletin, Louisiana State University, 122.
Washington University Studies, 165.
Yale Alumni Weekly, 122.
Zeitschrift für mathematischen und naturwissenschaftlichen Unterricht, 122, 165, 307, 457.

RECENT PUBLICATIONS—AMERICAN DOCTORAL DISSERTATIONS.

Benedict, Suzan R., 123.
Brand, L., 420.
Brink, R. W., 408.
Burgess, R. W., 123.
Campbell, J. W., 166.
Counts, G. S., 208.
Cox, L. C., 261.
Cresse, G. H., 420.
DePorté, J. V., 261.
Ford, L. R., 408.
Gossard, H. C., 123.
Grant, E. D., 362.
Griggs, Mary A., 123.
Harding, A. M., 166.
Hart, W. L., 166.
Haseman, Mary G., 166.
Hassler, J. O., 123.
Hazlett, Olive C., 123.
H'Doubler, F. T., 123.
Hollcroft, T. R., 261.
Howe, Anna M., 261.
Hu, M. T., 408.
James, G., 208.
Johnson, G., 123.
Kingston, H. R., 123.
Kline, J. R., 123.
Larew, Gillie A., 307.
McAtee, J. E., 362.
McMackin, F. J., 123.
Marriott, R. W., 123.
Matthewson, L. C., 123.
Merrill, A. S., 307.
Miller, Bessie I., 123.
Milne, W. E., 408.
Minnick, J. H., 261.
Miser, W. L., 123.
Monroe, W. S., 208.
Morrison, F. M., 166.
Moulton, E. J., 123.
Nelson, A. L., 123.
Paine, C. P., 87.
Reynolds, C. N., 420.
Rogers, Agnes L., 208.
Smith, D. M., 123.
Sperry, Pauline, 308.
Touton, F. C., 420.
Tsoo, Chan-Chan, 420.
Warren, L. A. H., 123.
Wells, Mary E., 166.
Wilder, C. E., 408.
Woody, C., 123.
Yeaton, C. H., 123.
Young, Mabel M., 123.

PROBLEMS—AUTHORS.

Numbers refer to pages, black-face type indicating a problem solved and solution published, italics a problem solved but solution not published, ordinary type a problem proposed.

Adams, O. S., 74.
Altshiller, N., 414.
Anning, N., 125, 271, 367, *460*.
Archibald, R. C., **416** (Note), **416**, **460**.
Arnold, Katherine S., *175*.
Baker, R. P., 268, 414.
Barnhart, C. A., *126*.
Bell, E. T., 269, 414, 416.
Bennett, A. A., 81, **415**.
Bramble, C. C., 312.
Brown, B. J., 129, 171, 414(2), 458.
Burgess, H. T., 213.
Cairns, W. D., 35, 268, *321*.
Campbell, A., 72.
Capron, P., 73, *126*, *129*, 171, *315*, *316*.
Carleton, H. E., *319*.
Carleton, H. N., *129*, *214*, *218*.
Carlson, H. E., *175*.
Chittenden, E. W., 35.
Clarke, E. H., 171, **177**, *273*, *313*.
Cohen, M., *320*.
Cohen, S., *126*.
Colwell, R. C., *175*, *314*, *316*.
Corey, S. A., 72, 79, 268, *313*, **315**, **369**, 458(2).
Cunha, P. J. da, *416*.
Daniell, P. J., **321**.
Davis, H. T., 125, 270.
Denton, W. W., 124.
Dickson, L. E., 214.
Dineen, A. T., *175*.
Dodd, E. L., 268.
Drane, W. H., 312.
Dunkel, O., 415, **416** (Remarks).
Echols, W. H., 366.
Escott, E. B., 37.
Fajans, I. J., *126*.
Fazio, J. V., *127*.
Flanagan, C. E., *129*, 312.
Franklin, P., 127.
Gilpin, C., Jr., 414.
Githens, C. E., **126**.
Gladstone, H., *127*.
Gossard, H. C., **128**.
Grant, E. D., *321*.
Greenstreet, W. J., 213.
Gronwall, T. H., 213, 366.
Gummer, C. F., **74**, **76**, **78**, **82**, **125**, **128**, **173**, **174**, **177**, **271**, *273*, **367**, **369**.
Hansen, P., **175**.
Harding, A. M., 73, 171(2), **272**, **273**, *313*(2), *314*, **317**, *317*, *319*, *370*, *416*.
Harlow, W. F., 174.
Hitt, J. R., 128.
Hoover, W., **79**, **129**(2), *131*, **314**, **316**, *317*, **319**.
Hopkins, G. I., 37.
Howard, H. R., **318**.
Huntington, E. V., 172, 173, **273**.
Irwin, F., 212, **269**, **270**, **271**, **367**, 369.
Johnson, R. A., *126*, **131**, *175*, *218*, *321*, 366.
Johnson, W. W., 171.
Julian, J. J., *175*.
Kempner, A. J., 269.
Kingston, H. R., *318*.
Kreth, D., 72.
Landis, W. W., 214.
Lane, E. P., 124.
Langman, H., 171.
Lasley, J. W., Jr., 73, 126, *127*, 414.
Latshaw, E., 311; see also Osborne, G. A.
Laves, K., 414.
Lawrence, J. F., 213.
Lehmer, D. N., **365** (Note).
Lewis, Florence P., 80.
Lochner, R. P., 312.
Lord, W. L., *127*.
Loud, F. H., *218*.
Lunn, L. E., 368.
Macaulay, C., 214.
McCain, Gertrude I., *370*.
Martin, A., 214, 215, 269, 416.
Mathews, R. M., *127*, *175*.
Mensenkamp, L. E., *126*, **127**, **315**.
Millenky, I., *126*.
Mills, C. N., 126, 319.
Moore, R. E., 72, 177, *312*.
Moots, E. E., 416.
Moritz, R. E., 414.
Morris, F. R., 76.
Nauer, A. N., *129*, *317*, **368**.
Oglesby, E. J., 458.
Olson, H. L., 35, *127*, *129*, *131*, **131**, *175*, *178*, **313**, *317*, *318*, **319**, *319*, *320*, *321*(2).
Osborne, G. A., **320** (incorrectly credited to E. Latshaw, 461).
O'Shaughnessy, L., 37.
Paaswell, G., *129*, 171.
Pandya, N. P., *127*, 131, 170, 171, 313, 369, 458.
Pelletier, A., **312**, *318*, *319*(2), *321*, *416*, *460*.
Phillips, H. B., 73, **320**.
Platman, A., *127*.
Post, E. L., **37** (Discussion).
Pumo, P., *127*.
Ransom, W. R., *321*.
Rees, E. L., **214**.
Reynolds, J. B., 35, 72, **75**, **77**, **78**, **80**(2), **81**, *124*, **126**, *127*, *129*, 129, **172**, **173**, *315*, *316*, *319*.
Richardson, L., 124.
Riley, J. L., 73, 124, *127*, 173, 268, 311, **320**, *321*, 458.
Roeser, H. M., **176**.
Rose, I., *127*.
Rosenbaum, J., 212, *321*.
Safford, F. H., *313*, **415**.
Schmall, C. N., 35, 36, 72, 124, 170, 213, 269, *320*, 458, 461.
Schweitzer, A. R., 312.
Shidy, L. P., *218*.
Simonsen, O. E., *126*.
Smith, J. B., 268.
Sousley, C. P., 267, *320*.
Spunar, V. M., 213, 268, 415, 459.
Swift, E., **124**, **125**, *127*, *129*, *321*, **369**, *416*.
Thompson, H. D., **129**.

Thomson, T. R., *127*.
Uhler, H. S., 36, 175, **215**, **459** (Discussion), **459**.
Weaver, W., 175, 268, 311, 366, 413.
Weinberger, S., *127*.
Weisner, L., **73**, **74**, **314**.
Whittemore, J. K., *369*.
Wildermuth, R. B., *175*.
Wilson, A. H., **317**.
Witmer, E. E., *313*, *318*.
Witmer, E. W., 72.
Worthington, E. H., 272, **319**.
Yanney, B. F., *218*.
Yen, C. C., 127.

PROBLEMS—SOLUTIONS.

[Numbers in black-face type refer to problems, those in light-face to pages.]

Algebra, 406, 459 (Discussion); **411**, 459; **430**, 415.
Geometry, 455, 460; **519**, 415, 416 (Remarks).
Calculus, **385**, 73; **411**, 124; **425**, 74; **433**, 37 (Discussion); **440**, 74.
Mechanics, 322, 76; **328**, 78; **332**, 416 (Correction); **349**, 79; **350**, 80; **356**, 80; **357**, 81.
Number Theory, 198, 416 (Note); **201**, 416; **231**, 269; **239**, 125, 270; **245**, 367; **247**, 271; **260**, 81; **261**, 125.
2665, 126; **2667**, 214, 315; **2670**, 126; **2678**, 271; **2679**, 126; **2680**, 127; **2681**, 127; **2682**, 214; **2683**, 128; **2684**, 129; **2685**, 129; **2687**, 131; **2689**, 172; **2690**, 173; **2691**, 131; **2692**, 173; **2693**, 174; **2696**, 368; **2697**, 175; **2698**, 175; **2699**, 177, 312; **2700**, 215, 365 (Note); **2701**, 272; **2702**, 313; **2703**, 313; **2704**, 314; **2705**, 315; **2707**, 315; **2708**, 316; **2709**, 273; **2710**, 312; **2711**, 316; **2712**, 317; **2714**, 318; **2715**, 318; **2716**, 319; **2722**, 369; **2729**, 369; **2731**, 369; **2735**, 319; **2736**, 320; **2737**, 320, 461; **2738**, 321. List of unsolved problems, 213.

MATHEMATICAL CLUBS—ACTIVITIES.

Albion College, 408.
Barnard College, 308.
Brown University, 167.
Columbia University, 262.
Denison University, 308, 362.
Goucher College, 365.
Harvard University, 262.
Hunter College, 168.
Northwestern University, 363.
Swarthmore College, 168.
University of Illinois, 309.
University of Kansas, 208.
University of Kentucky, 309.
University of Maine, 263.
University of Minnesota, 209.
University of Nebraska, 263.
University of Texas, 364.
University of Toronto, 169.
University of Washington, 170.
Vassar College, 264.

MATHEMATICAL CLUBS—TOPICS FOR PROGRAMS.

The Number π, 209. Codes and Ciphers, 409.
For social meetings:
An Evening at Chess, 311—Flatlanders—A Mathematical Play in One Act, 264—Mathematical Contests, 310—Mathematical Plays and Games, 310, footnote—Telling Fortunes by Mathematics, 310.

PERSONAL MENTION.

Adams, C. R., 89, 167, 274, 386; Adams, E. P., 324; Adams, H., 359; Adams, H. F., 457; Adams, O. S., 40, 325; Adkins, L. K., 40; Agnew, P. G., 276; Ahrens, W., 403; Alasia, C., 323; Aldrich, Maelynette, 386; Alexander, D., 409; Alexander, A., 324; Alexander, J. W., 40; Alger, P. L., 101; Allen, E., 462; Allen, E. S., 277, 419; Allen, J., 179, 221; Allin, C. S., 40; Allingham, W., 118; Altshiller, N., 119; Amaldi, U., 371; Ames, J. S., 276; Ames, W. L., 67; Amig, Margaret, 365; Amerman, C., 359; Anderson, W. E., 235; Anning, N. H., 40, 461; Antoine, —., 371; Apple, A. T. G., 105; Archibald, R. C., 88, 90, 104, 120, 133, 277, 380; Armstrong, L. E., 87; Arnaud, J. J., 40, 103; Arnold, C. L., 363; Ashton, C. H., 180, 208; Atchison, C. S., 40, 83; Autenrieth, G. C., 103.
Babbitt, A., 263; Babcock, R. W., 180; Babcock, Wealthy, 208; Bachman, P., 161; Bacon, Clara L., 236, 365; Bacon, R., 259; Baker, A., 169; Baker, R. P., 93, 94; Baldwin, Evelyn, 308; Baldwin, J. W., 85; Ballantine, S., 386; Ballard, Alice, 364; Ballore, R. M. de, 358; Barbarin, P., 223; Barnard, R. W., 40, 88; Barnett, I. A., 275; Barney, Ida, 322; Barrow, D. F., 40; Barth, C. G., 117; Barthelmy, A., 207; Barton, Helen, 219; Barton, R. M., 420, 438; Bass, E. W., 84; Batchelder, P. M., 121, 307; Batchelor, G., 405; Bateman, H., 120, 303, 456; Bauer, G. N., 275; Bauer, L. A., 324, 375; Beal, F. W., 370; Beal, W. O., 435; Beall, Mary E., 309; Beall, Sarah, 386; Beatley, R., 40; Becker, K., 159; Beckwith, Mrs. E. R., 133; Beckwith, W. S., 238; Beetle, R. D., 417; Belcher, D. R., 40; Bell, E. T., 170, 303; Bell, Rachel, 208; Belser, F. C., 303; Beman, W. W., 224, 276, 374, 420; Benedict, H. Y., 66, 89, 222, 261; Bennett, A. A., 40, 89, 98, 307, 364, 405, 418;

Benteli, A., 179; Berkele, Edna, 309; Bernstein, B. A., 133, 162; Berry, W. J., 40; Betz, H., 40, 85, 370; Betz, W., 277; Biefeld, P., 308; Biehl, Louise, 168; Biel, E. G., 40, 86, 322; Birchenough, H., 277; Birkhoff, G. D., 90, 162, 222, 275, 301, 324, 419; Black, Florence L., 386; Blair, Vevia, 277, 280; Blakslee, T. M., 386; Blanchard, R. L., 40; Blau, R. S., 168, 169; Bledsoe, J. M., 121; Blichfeldt, H. F., 40, 89, 98, 106, 119, 132, 219, 223, 276, 405; Bliss, G. A., 40, 89, 180, 224, 420; Blumberg, H., 105, 120, 208, 303, 404, 419; Bôcher, M., 136, 262, 372; Bohannon, R. D., 133; Bohr, H., 204; Bolton, Mrs. Helen, 261; Bond, J. D., 417; Bonnesen, T., 90, 204; Booth, A. L., 406; Borel, E., 404; Botkin, Frances R., 263; Bottaso, M., 372; Boussinesq, V. J., 419; Bouton, C. L., 222, 277; Boutroux, P., 40, 462; Bower, Ethelwyn, 168, 169; Bowes, R., 219; Boyack, Breeze, 237; Boyd, P. P., 279, 309, 324; Boyer, P. A., 258; Brackett, F. P., 133; Bradley, H. C., 275; Bramble, C. C., 161; Brand, L., 420; Brand, C. E., 307; Brandeberry, J. B., 40; Brandenburger, C., 372; Brasch, F. E., 407; Bray, H. E., 258; Breckenridge, W. E., 120, 223, 277; Breed, S. A., 275; Breslich, E. R., 359; Brill, A. V., 86; Brink, R. W., 209, 275; Broadlick, J. N., 40; Brockett, P., 159–160; Brooks, J., 264; Brower, Mary, 365; Brown, B. H., 40, 238, 275; Brown, B. J., 169; Brown, E. W., 90, 122, 220, 277, 324, 375, 380, 405; Brown, F. L., 417; Brown, Katharine D., 104; Brown, Marie, 209; Brown, T. H., 167; Browne, E. T., 417; Buchanan, D., 257; Buchanan, H. E., 105, 179, 221; Buck, T., 40, 89; Bullard, J. A., 219; Bumstead, H. A., 88; Burger, W. H., 364; Burgess, H. T., 40; Burgess, R. W., 40, 274, 360; Burnside, W., 220; Burton, E. F., 169; Burwell, W. R., 89; Bussey, W. H., 209, 438; Butler, P., 104; Butterfield, K. L., 220; Byerly, W. E., 262, 263.

Cairns, W. D., 93, 94, 180; Cajori, F., 90, 121, 133, 160, 164, 359, 404; Caldwell, —., 221; Caldwell, Minnie W., 104; Calhoun, J. W., 66, 261, 364; Callaway, Mrs. Theodosia T., 238; Camp, C. C., 40, 274; Campbell, A. D., 40, 87, 134, 275, 419; Campbell, J., 409; Campbell, Jessie R., 238; Campbell, J. W., 40; Canaday, E. F., 41; Cantor, M., 323; Caparo, J. A., 41, 462; Capron, P., 219; Carathéodory, C., 85; Card, H. L., 41; Carey, H. F., 167; Carmichael, F. L., 41, 462; Carmichael, R. D., 92, 104, 120, 121, 161, 162, 165, 303; Carrol, Ethel, 365; Carter, C. C., 104; Carty, J. J., 88; Carus, P., 135; Carver, W. B., 221; Castor, Mary E., 41; Cattell, J. McK., 403; Cawl, F. R., 407; Chace, A. B., 167; Chapman, S., —; Charles, R. L., 417; Chazy, J., 371; Child, J. M., 302; Child, Mabel C., 169; Chittenden, E. W., 133, 362; Clairin, J., 371; Clark, Lena, 168; Clarke, Helen, 308; Clawson, J. W., 404; Clements, G. R., 219; Cobb, C. W., 41; Coble, A. B., 161, 180; Codd, A. W., 135; Coe, C. J., 276; Coffin, J. G., 386; Cohen, A., 222, 325; Cohen, L., 276; Cohen, M. P., 304; Cohen, Teresa, 404; Cohn, A., 405; Cole, F. N., 89, 90, 263, 304, 405; Collier, Myrtle, 372; Colpitts, Mary A., 419; Colwell, R. C., 120; Conner, J. F., 41; Coolidge, J. L., 41, 220, 275, 361; Cornell, T. A., 89; Cornu, L., 118; Corson, E. T., 168; Courtright, Margaret, 409; Craig, C. E., 221; Craig, Jessie, 209; Crandall, C. L., 205; Cranz, C., 159; Crathorne, A. R., 93, 94, 279, 359, 439, 463; Cresse, G. H., 178, 276, 420; Cressy, D. H., 41; Crew, H., 457; Crooks, C. G., 279; Crum, W. L., 41; Cullis, C. E., 135; Cummings, Louise D., 303, 304; Currier, C. H., 41, 133; Curtis, H. B., 418; Curtis, Mary F., 119; Curtiss, D. R., 93, 95, 364, 420.

Daniell, P. J., 122, 303, 404; Daniells, M. E., 418; Daniels, F., 179; Danielson, F., 363; Dantzig, T., 178; Dappert, J. W., 105; Darboux, G., 371; Darmois, G., 371; Darwin, G. H., 179; Datta, B., 257; Davis, C. P., 262; Davis, E. W., 105; Davis, H. N., 275; Davis, J. E., 41; Davis, J. M., 279, 310; Davis, N. F., 167; Davis, Varina, 365; De Land, T. L., 307; Dean, W. C., 408, 409; Dearle, R. C., 169; Decherd, M. E., 222; Decker, F. F., 120, 418; Deering, Edith I., 263; De Long, I. M., 237; Deputy, Helen, 169; Dickson, L. E., 90, 92, 132, 223, 255, 258, 277, 303, 380, 405; Dillingham, A., 219, 325; Dillon, —., 221; Dines, C. R., 41, 89, 417; Dines, L. L., 84, 164, 208, 258; Dingeldey, F., 160; Dini, U., 205, 455; Dobson, W. P., 238; Dodd, E. L., 105, 222; Dodderidge, Faye, 208; Doggett, L. A., 325; Doll, T., 41, 87, 363, 418; Doolittle, C. L., 178; Dotterer, R. H., 304; Dougherty, H. R., 41; Dougherty, Lucy T., 41; Douglass, R., 275; Dowling, L. W., 180, 303, 405; Downey, W., 439; Downing, H. H., 279, 309; Dresden, A., 41, 303, 417; Doyle, Irene, 309; Dugan, R. S., 256; Duncan, F., 84; Dunkel, O., 105, 163, 165, 370; Dupuis, N. F., 205; Durand, W. F., 88.

Easterbrooks, Rachel T., 167; Edington, W. E., 41, 134; Eisenhart, L. P., 106, 361, 374, 380, 404; Ellery, Louise, 365; Elliott, W. W., 134, 279, 309; Ellis, D. S., 41; Emch, A., 121, 161, 303, 307, 407, 462; Engle, Viola, 208, 209; Epperson, C. A., 41; Eppes, J. B., 219; Erskine, J., 220; Esclangon, E., 371; Escott, E. B., 261; Eshleman, J. D., 41, 88; Ettlinger, H. J., 41, 222; Etzel, W. E., 436; Evans, G. C., 41, 178, 405; Evans, G. W., 120, 280, 439; Evans, H. B., 119; Everett, H. S., 104.

Fabey, L., 223; Fabre, J. H., 161; Fales, E. N., 159; Farris, —., 41; Fentress, G. L., 221; Ferguson, W. J., 104; Ferguson, Z., 84, 135; Ferrier, T. A., 135; Ferry, F. C., 277; Fetter, F., 169; Fiedler, W., 160; Field, P., 41; Fields, J. C., 169; Fine, H. B., 278; Finkel, B. F., 105, 106; Fischer, C. A., 223, 322; Fisher, W., 261; Fiske, T. S., 136; Fite, W. B., 88, 122, 222, 223; Flanagan, C. E., 105; Fletcher, W. H., 407; Flexner, S., 88; Floody, Lily M., 169; Floquet, A. M. G., 419; Foberg, J. A., 279, 439, 463; Foetz, L. S., 237; Foord-Kelcey, J. W., 135; Foraker, F. A., 406; Ford, L. R.,

41, 88; Ford, W. B., 93, 95, 224, 359, 375, 383; Forsyth, C. H., 41; Foster, Alice W., 169; Foster, J. M., 386; Fox, Ethel, 365; Fox, M., 408; Fox, P. J., 121; Fraleigh, E. P., 84; Fraleigh, P. A., 41, 135, 218; Franklin, P., 41, 238; Franklin, W. S., 162, 255, 276; Frary, H. D., 41; Freas, Elizabeth, 238; Fréchet, R. M., 178, 371; Free, Lucile, 264; Fricke, R., 403; Frizell, A. B., 89; Frobenius, G., 85; Fry, T. C., 41; Fu, M. F., 122; Furman, F. De R., 87.

Gaba, M. G., 84, 263, 370; Gaehr, P. F., 261; Galajikian, H., 41, 104; Galdeano, Z. G. de, 118, 302; Galle, A., 161; Galloway, J. N., 219; Garnet, W. H., 134; Garrett, W. H., 219; Garretson, W. V. N., 161, 417; Garrison, D. M., 221; Gauss, C. F., 161, 358; Gavin, Dorothy G., 169; Gaylord, H. D., 258; Gehman, H. N., 41, 104; Georges, J. S., 238; Gibbens, Gladys, 274; Giles, Ila B., 169; Gill, B. P., 41; Gillespie, D. C., 221, 258; Gilman, R. E., 41, 274; Gingrich, C. H., 435, 438; Glasgow, Josephine, 84; Gleason, R. E., 133; Glenn, O. E., 120, 261, 362; Glover, J. W., 419; Godfrey, S. C., 41; Goff, R. R., 258, 261; Golden, M. J., 87; Gordon, Elizabeth, 409; Gossard, H. C., 461; Gould, Alice B., 99, 104; Graber, M. E., 235, 418; Graf, J. H., 86; Graham, Marion, 168; Graustein, W. C., 89, 219; Gray, Nora E., 169; Green, C. F., 41; Green, G. M., 86, 121, 362; Green, J. L., 120; Grennan, Elizabeth B., 84; Groff, Deldee, 365; Gronwall, T. H., 42, 89, 120, 121, 258, 278, 404, 405, 407, 418; Gross, W., 178; Grossman, A., 84; Grove, V. G., 274; Guichard, C., 371; Guimarães, R., 371; Guy, D. J., 42.

Haag, J., 371; Hadamard, J., 220, 302; Hadaway, Joyce, 409; Hadley, L., 418; Hagen, Beatrice, 209; Hale, G. E., 88; Hall, E. O., 169; Hall, E. H., 120; Hallett, G. H., 276, 303; Hancock, H., 161; Harding, A. M., 261, 408; Harmon, A., 370; Harnly, P. W., 42; Harper, F., 409; Harris, R. A., 105; Hart, J. N., 263; Hart, W. L., 42, 83, 221, 275; Hart, W. W., 180, 359, 387; Haskell, Marian, 308; Haskins, C. N., 89; Hassé, D. H. R., 371; Hathaway, A. S., 407; Hawkes, H. E., 90, 277, 359; Hawkesworth, A. S., 42; Hayashi, T., 120, 303; Hazlett, Olive C., 122; Heal, W. E., 42; Heath, T. L., 302; Hebbert, C. M., 42; Hedlund, M., 42; Hedrick, E. R., 84, 92, 134, 220, 374, 379; Heegaard, P., 88, 204, 324; Hemke, P. E., 87, 370; Henderson, A., 165, 208; Henry, Phillis, 307; Hering, C., 162; Herrick, D., 409; Hildebrandt, T. H., 42, 88, 180; Hill, L. S., 42; Hill, P. W., 42, 322; Hjelmslev, J., 159; Hodgdon, Grace H., 263; Hodge, F. H., 462; Hölder, O., 85; Hollcroft, T. R., 42, 84, 88, 257; Hollcroft, Mrs., 84; Holtwick, Adele C., 238; Hooker, J. D., 302–303; Hopkins, L. A., 374; Hornung, C., 105; Horton, Goldie P., 119, 222, 307, 364; Howe, Anna M., 257; Howe, R. H., 309, 363; Howie, J. M., 42; Hubble, E. P., 42; Huney, Lois, 209; Huntington, E. V., 42, 92, 106, 375, 383, 418; Hurwitz, W. A., 90, 105, 221; Hussey, W. J., 324; Huxley, L., 302.

Ingels, Nelle L., 406; Ingold, L., 160; Irwin, H. N., 163; Isaacs, C. A., 387.

Jackson, D., 42, 159, 275, 278, 361; Jackson, T. W., 461; James, G., 461; James, G. D., 462; James, G. O., 461; Janes, L., 364; Janes, W., 364; Jeans, J. H., 160, 302; Jensen, J. L. W. V., 223; Jentz, Veronica, 308; Jentzch, R., 179; Jessen, I. L. W., 204; Joffe, S. A., 407; Johnson, Alice, 308; Johnson, Dorothy, 168; Johnson, M. F., 387, 418; Johnson, R. A., 435–436, 438; Johnson, W. W., 325, 361; Jones, A. L., 277; Jones, A. T., 407; Jones, E. L., 407; Julia, G., 223; Junkin, Vera, 409.

Karapetoff, V., 407; Karpinski, L. C., 66, 117, 163, 169, 224, 276, 370, 378, 407, 420; Kasner, E., 222, 308; Kauffman, H. N., 164; Kazarinoff, D. C., 420, 436; Keachie, F. B., 169; Keffer, R., 42; Kellogg, O. D., 42, 218, 323; Kells, L. M., 42; Kelly, Helen, 363; Kendall, Claribel, 222; Kennard, Elaine, 308; Kennedy, Carla, 409; Kennelly, A. E., 260; Kenyon, A. M., 42, 93, 160; Keppel, H. G., 84, 88, 105; Kerr, F. L., 221, 370; Keyser, C. J., 162, 258, 262, 304, 308; Kiefer, E. C., 387; Kiernan, A., 219; Killam, S. D., 42; Kimberly, M. C., 263; Kimbrough, Frances, 310; Kimmel, H., 163; King, E., 308; King, W. J., 219; Kingston, H. R., 83; Kinzel, A. B., 262; Kircher, E. A., 42, 135, 275, 418; Kirchner, W. H., 435; Kline, J. R., 258, 322; Klopsteg, P. E., 407; Klotz, O. J., 374; Knabelman, M. S., 322; Koenigs, G. X. P., 134; Koenigsberger, L., 86, 323; Kohs, S. C., 163; Kuhn, H. W., 133.

La Master, C. E., 261; Lamb, H., 302; Lambert, W. D., 42; Lampe, K. O. E., 89; Lampen, A. E., 104; Lamson, K. W., 223; Landis, W. W., 42; Lane, E. P., 104; Larew, Gillie A., 208; Larmor, J., 223; Lattès, S. I., 90, 223, 371; Laves, K., 98; Leaute, H. C. V. J., 134; Lefschetz, S., 261, 407; Lehmer, D. N., 105, 121, 163, 261; Lehr, Marguerite, 365; Lester, O. C., 237; Leuschner, A. O., 42; Leut, Ellen, 308; Levi, Mattie, 169; Levi-Civita, T., 371; Lewis, Florence P., 277, 365; Liapounoff, A. M., 179; Light, G. H., 222, 274; Lillard, R. W., 120; Lindsay, R. B., 167; Linebarger, C. E., 403; Ling, G. H., 418; Lipka, J., 277; Little, A. S., 303; Livingston, G. R., 387; Logsdon, Mrs. Mayme I., 274, 363; Longley, W. R., 42, 87; Lorentz, H. A., 135; Loria, G., 404; Lotka, A. J., 258; Love, A. E. H., 302; Lovejoy, A. O., 89; Lowe, P., 169; Luby, W. A., 359; Luck, J. J., 85; Lunn, A. C., 90, 383; Lytle, E. B., 384.

MacFarlane, A., 255; MacKavanaugh, T. J., 325; Mackay, Mary I., 169; Maclay, J., 222, 223, 262; MacLean, N. B., 42, 83; MacMillan, W. D., 42, 87, 101, 180, 370; MacNeish, H. F., 163; MacNutt, B., 255; Maennchen, P., 358; Manning, H. P., 105; Manning, W. A., 88, 208; Mansion, P., 323; Markham, E., 165; Markley, J. L., 276, 374; Marm, Anna, 387; Marshall, W., 42; Martin, A., 83, 105; Martin, E. W., 387; Mason, M., 42; Massey, R., 238; Matheson, J., 378; Mathews, R. M., 163, 435, 438; Mathewson, L. C., 122; Matos, W. A., 169; Maxwell, J. C., 220; McAtee, J. E., 87, 105, 303, 404; McClenon, R. B., 67, 105;

McCrae, J. D., 120; McCue, M. J., 104; McDonald, B., 364; McDowell, Carroll, 209; McKelvey, J. V., 42, 370; McMartin, Christine, 364; McSorley, Kathryn, 163, 168; Meneely, Janet, 308; Menk, Laura, 209; Mensenkamp, L. E., 163; Merriam, Frances M., 167; Merrill, A. S., 42, 257; Merrill, Helen A., 105, 120, 464; Merrill, P. W., 276; Metcalf, J. H., 405; Metcalf, W. V., 42; Metzler, W. H., 120, 121, 179; Meyer, W. F., 160; Mikesh, J. S., 42, 134; Milhaud, G., 207; Millay, Kathleen, 264; Miller, C. W., 42; Miller, F. E., 275; Miller, G. A., 88, 90, 121, 122, 163, 164, 207, 255, 257, 261, 277, 302, 303, 306, 360, 379, 404, 406, 407; Miller, J. A., 169; Mills, C. N., 133, 418; Milne, W. E., 42, 89, 133; Minnick, J. H., 120, 406; Mirick, G. R., 42; Mitchell, H. H., 42, 89, 219, 276; Mitchell, U. G., 105, 180; Mittag-Leffler, 372; Mohr, F., 363; Mohrmann, A., 371; Monroe, W. S., 360; Montague, Josephine, 208, 209; Montell, P., 223; Moore, Charlotte, 168; Moore, C. L. E., 120; Moore, C. N., 90, 93, 162, 163, 234, 280, 405; Moore, E. C., 372; Moore, E. H., 42, 88, 93, 106, 280; Moore, R. A., 179; Moore, R. E., 179; Moore, R. L., 161, 163, 258, 276, 362, 407; Moots, E. E., 322; Morgan, F. M., 88, 117, 405, 418; Moritz, R. E., 160, 261; Morley, F., 90, 133, 224, 255, 324; Morris, C. C., 133, 308; Morse, H. C. M., 43, 275; Moulton, E. J., 93, 105, 221, 364, 417, 420; Moulton, F. R., 43, 89, 180, 219, 276, 277, 324; Moynihan, H., 436; Muir, T., 408; Mullins, G. W., 223, 275, 308; Musselman, J. R., 43; Myers, G. W., 121, 180.

Naebauer, M., 159; Nassau, J. J., 43; Naylor, Mrs. D., 84; Nellis, Evangeline, 309; Nelson, Agnes, 309; Nelson, A. L., 257, 277; Nelson, A. N., 168; Nelson, C. A., 275; Nelson, I. I., 43, 221; Neovius, E. R., 86; Nernst, W., 403; Nicholson, J. W., 220; Nicolet, J., 104; Niemann, Christine, 409; Nipher, F. E., 163, 208, 306; Noether, M., 86; Nörlund, N. E., 323; Normand, E., 364; Norris, Eleanor, 365; Norton, A. H., 43, 84; Nowlan, F. S., 178; Noyes, A. A., 88; Nyswander, J. A., 43.

Oglesby, E. J., 43, 87, 121, 222, 261; Olmstead, Eleanor, 364; Olney, A. C., 439; Olson, H. L., 461; Osgood, W. F., 162, 222, 224, 262, 303, 361; Ott, E., 179; Ott, L. F., 238; Owens, —., 43; Owens, F. W., 221; Owens, Helen B., 84, 222.

Paddock, C. E., 406; Paine, C. P., 87, 180; Papps, P. C. H., 278; Parker, W. P., 104; Parshall, L. R., 237; Parsons, F. W., 238, 418; Pastor, J. R., 302; Pearl, Esther, 409; Peckham, Anna B., 238, 308; Pegram, Annie McK., 387; Peirce, B., 405; Peirce, B. O., 262, 263; Peirce, J. M., 262, 263; Pell, A., 120; Pell, Anna J., 208; Pell, Gladys, 168; Pérès, J., 371; Perry, Winona, 167; Pettitt, H. P., 134, 279, 309; Pfaltz, Mimosa, 308; Pfeiffer, G. A., 119, 178; Phahn, H. R., 322; Phillips, H. B., 85, 120; Piazetti, P., 90; Pickering, E. C., 134; Pierce, T. A., 43; Piersall, Catherine, 308; Pitcher, A. D., 162; Pitman, J. H., 168; Pocock, R. J., 135; Pooler, L. G., 104; Poor, C. L., 116, 121; Poor, V. C., 276; Porter, Flora, 43; Porter, H. E., 43; Porter, M. B., 161, 222, 364; Porter, P. C., 43; Posey, F. D., 43; Post, E. L., 223, 258; Powell, H. W., 84; Powell, Margaret E., 169; Prante, Beulah, 309; Pratt, Gertrude, 409; Pride, H. H., 43; Priest, Almira K., 409; Pritchard, R. V., 238; Pritchett, H. S., 419; Putnam, T. M., 133, 418.

Quick, Hazel, 209; Quigley, Jessie G., 438.

Rafferty, P., 238; Raiford, T. E., 462; Ramsey, A., 85; Randolph, O. A., 237; Rankin, W. W., 418; Ransom, W. R., 43, 67, 86, 277; Rayleigh, see Strutt, J. W.; Raymond, Ellen, 168; Reed, F. W., 43, 87, 134; Reed, L. J., 43; Rees, E. L., 279, 309; Reeve, W. D., 67, 435; Rehm, H. W., 221; Reichel, O., 86; Requa, Emma M., 168; Reye, T., 323; Reynolds, C. N., 420; Rhoades, A. L., 43; Rhoton, A. L., 134; Rice, C. D., 307, 404; Rice, H., 104; Rice, J. N., 43; Rich, F. M., 164; Richardson, C. H., 84, 104, 279; Richardson, Flavia L., 263; Richardson, R. G. D., 106, 167, 383; Rider, P. R., 43, 165; Rietz, H. L., 97, 99, 106, 133, 359; Ritt, J. F., 43, 223, 405; Robbins, R. B., 277, 378; Robinson, Opal M., 168; Robison, G. M., 370; Roe, E. D., Jr., 120, 323; Roever, W. H., 43, 67, 89, 102, 106; Rogers, Agnes L., 406; Rogers, J. C., 238; Roman, I., 43, 87, 219, 322; Root, R. E., 325; Rosenbach, J., 87; Rosenthal, Anita, 168; Rothrock, D. A., 86, 106; Rouse, L. J., 277; Routh, E. J., 220; Rowe, J. E., 43; Roy, L., 371; Rupp, C. A., 275; Rusk, W. J., 67; Russell, B., 160; Russell, H. N., 121.

Sage, J. R., 387; Sallade, J. A., 43; Salmon, G., 160; Sanden, H. v., 159; Sanders, S. T., 122; Sanford, S. P., 43; Sarton, G., 118–119, 121, 207, 305, 361; Satterly, J., 169; Savage, Georgie, 364; Schaaf, Georgia, 308; Schick, Minna J., 275; Schlauch, W. S., 223; Schlesinger, F., 375; Schlesinger, L., 161; Schmidt, A., 160; Schmiedel, O., 306; Schoenflies, A., 403; Schorling, R., 67, 280, 439, 463; Schreiber, E. W., 306; Schweidler, E. v., 160; Searle, G. M., 85; Seely, Caroline E., 43, 258; Segre, C., 160; Selves, Mrs. Catharine, 387; Sensenig, W., 257; Severini, C., 371; Shafer, Vesta, 209; Shamos, M., 238; Sharp, Thelma, 409; Sharpe, F. R., 221, 274; Shaver, W. W., 169; Shaw, J. B., 383; Shepard, E. I., 43; Sherk, W. H., 461; Sherwood, G. E. F., 372; Shively, L. S., 461; Shook, C. A., 43; Short, C. A., 43; Showman, H. M., 83, 322; Shumaker, A., 308, 309; Siceloff, L. P., 43, 223, 262; Silverman, L. L., 43, 417, 462; Simonds, W., 364; Simpson, T. McN., 43, 84, 462; Singer, C., 119; Sisam, C. H., 207, 237, 257, 404; Skinner, A. N., 85; Skinner, C. H., 164; Slaught, H. E., 92, 93, 105, 106, 180, 220, 224, 374; Slichter, C. S., 67, 180; Slobin, H. L., 43, 85, 322; Slocum, S. E., 235; Smail, L. L., 120; Smedley, Caroline H., 169; Smith, C. E., 43; Smith, Clara E., 365; Smith, C. M., 134; Smith, D. E., 85, 90, 93, 105, 106, 258, 277, 280, 380, 439; Smith, E., 409; Smith, E. R., 406; Smith, E. S., 43, 180; Smith, G. W., 85, 257, 279, 309; Smith, H. B., 387; Smith H. L., 43, 84, 322, 462; Smith, J. B., 133; Smith,

Margarethe M., 238; Smith, M. G., 87, 322; Smith, O. A., 204; Snapp, R. R., 221; Snedden, D., 360; Snyder, V., 90, 221, 277, 420; Somers, R. H., 43; Sommerfield, A., 168; Sommerville, D. M. Y., 161; Sonley, A. J., 169; Spaulding, E. G., 220; Sperry, Pauline, 133; Staeckel, P., 161; Stager, H. W., 119; Stanwick, C. A., 43; Stark, Marion E., 219; Staude, O., 85; Stearns, C. L., 86; Stebbins, J., 374; Stephanos, C., 86; Stephens, E., 238; Stephens, H. N., 418; Stephens, Ruth, 209; Stetson, J. M., 43, 370; Stockard, L. V., 261; Stokes, C. N., 387; Stoll, Laura, 309; Stone, R. B., 104; Stouffer, E. B., 180, 208; Stradler, W. W., 164; Stratton, S. W., 324; Stromquist, C. E., 120; Stromsky, S., 405; Street, G. T., 43; Strunsky, S., 405; Strutt, J. W., 323; Sullivan, C. T., 408; Swann, W. F., 436; Swartzel, K. D., 363; Sweet, E. L., 167; Sylow, L., 119, 164.

Tait, P. G., 178; Tanner, J. H., 90, 136, 238; Tanzola, J. J., 44; Taylor, A. E., 455; Taylor, E., 370, 419; Taylor, J. S., 275; Terrill, H. M., 44; Thayer, G., 44; Thompson, R., 308; Thorne, P. L., 44, 179; Thorp, Ella, 209; Thulin, F., 303; Tileston, R. R., 387; Timerding, H. E., 159; Todhunter, I., 220; Tolman, E. C., 303; Torek, Gretchen, 308; Torroja, D. E., 302, 323; Touton, F. C., 359, 419, 420; Tremaine, D'Estell, 209; Trimmer, J., 168, 169; Tripp, M. O., 164, 258, 263, 419; Trorer, Elizabeth, 169; Tsoo, C., 420; Tucker, R. S., 275; Turner, R. L., 44; Tuttle, F. W., 310; Twigg, H. J. R., 163; Tyler, H. W., 44, 93, 280; Tyler J., 219.

Underhill, A. L., 179; Underwood, P. H., 439; Underwood, R. S., 462; Upton, C. B., 168, 223.

Valiron, G., 371; Van der Vries, J. N., 44, 106, 178; Vance, E. H., 462; Vandiver, H. S., 44, 162, 370, 405; Vann, May H., 221; Van Vleck, E. B., 322; Vaughan, W. S., 169; Veblen, O., 44, 89, 219, 223; Véronnet, A., 371; Veronese, G., 179; Vessist, E. P. J., 371; Villat, H., 371; Volterra, V., 324, 404.

Waddell, S., 164; Walker, Margaret, 309, 363, 364; Wallace, H. G. S., 457; Walsh, C. B., 168; Walsh, J. L., 44; Walter, A., 387; Wapple, A. R., 44; Warren, L. A. H., 83; Washington, H. S., 220; Watkeys, C. W., 104; Watkins, Mildred, 261; Watson, Mattie R., 261; Watt, Evelina, 209; Wear, L. E., 303; Weaver, Esther, 308, 309; Weaver, J. H., 404; Weaver, W., 44, 87, 218, 417; Webb, H. E., 278, 383, 384; Webber, W. P., 406; Webster, A. G., 44, 223, 261; Webster, Louisa M., 44, 420; Wechsler, A. L., 44; Wedderburn, J. H. M., 44, 462; Weeks, Eula A., 439; Weinstein, M. B., 179; Weiss, P., 178; Wells, V. H., 44; Wells, W., 359; Werner, Miriam, 168; Wester, R. A., 44; Wheeler, J. J., 180; Whelan, Loretta, 365; Whelan, Marie, 365; Whisenhunt, A. P., 238; Whitcher, Edith, 208; White, C. E., 164; White, H. S., 277, 304, 405, 419; White, Marion B., 178; White, P. J., 264; Whitehead, A. N., 455; Whitford, D. B., 167; Whitney, Fern, 308; Whittemore, J. K., 122, 162, 258; Wiechert, E., 178; Wiener, L., 361; Wiener, N., 44, 275; Wilczynski, E. J., 121, 180, 277, 361; Wilder, C. E., 44, 87, 88, 133, 219; Wildman, —., 308; Wiley, F. B., 308; Willard, H. R., 44; Williams, F. B., 44, 85; Williams, Gladys, 364; Williams, K. P., 44; Winger, R. M., 84; Willson, R. W., 323; Wilson, D. T., 44, 85, 235; Wilson, E. B., 223, 277; Wilson, N. R., 44; Wilson, R. E., 93; Wischmeyer, C., 67; Wolf, C., 134; Wolfe, H. E., 44, 88, 461; Wolff, H. C., 180, 461; Wood, F., 44, 417; Wood, F. E., 44, 88, 219, 274; Woodrow, J. W., 237; Woods, B. M., 44; Wright, Frances W., 167; Wright, W. H., 44.

Yaeger, L. E., 84; Yanney, B. F., 384; Yardley, H., 169; Yeaton, C. H., 44, 83, 87, 209, 275, 438; Young, Jessica M., 87; Young, J. W., 88, 90, 93, 106, 117, 134, 255, 277, 279, 358, 384, 417, 463; Young, J. W. A., 180, 361, 403; Young, Nellie, 209; Young, W. H., 462.

Zacharias, M., 160; Zeldin, S. D., 323; Zeuthen, H. G., 323, 404; Ziwet, A., 106, 223.

UNIVERSITIES, COLLEGES, ASSOCIATIONS, ETC.

American Mathematical Society, April meeting, 278; summer meeting, 420; winter meeting, 90; Chicago Section, 132, 223; Committee on the Maxime Bôcher Memorial, 136.

Cambridge University, 220.

Geophysical Institute, England, 324.

Indian Mathematical Society, 135.

Massachusetts Institute of Technology, 323.

Mathematical Association of America, Annual register, 224; Supplement to November MONTHLY; Finance Committee, 224; Summer meeting, 224, 278.

Norwegian Mathematical Society, 324, 455.

Prizes: Academy of Sciences of the Institute of France (six prizes), 223; Adams Prize, 220; Querini-Stampalia Prize, 419, 462.

School of Navigation, Canada, 132.

Stevens Institute of Technology, 87.

Student Army Training Corps, 88.

Summer courses, 133, 180, 221–223, 224, 276–277.

United States Naval Academy, 221, 275–276.

University of California, Southern Branch, 372.

University of Strassburg, 371.

SUPPLEMENT.

Register of officers and members, supplement to the MONTHLY for November, 40 pages, with cover.